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PROMOTION OF THE MOBILIZATION OF FINANCIAL RESOURCES REQUIRED IN THE IMPLEMENTATION OF THE NAIROBI PROGRAMME OF ACTION: EXISTING CHANNELS FOR FUNDING NEW AND RENEWABLE SOURCES OF ENERGY, AND PROGRESS ACHIEVED IN MOBILIZING FINANCIAL RESOURCES THROUGH CONSULTATIVE MEETINGS

Mobilization of financial resources and inter-agency coordination

Report of the Secretary-General

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* A/AC.218/1992/1.

INTRODUCTION

1. At its fifth session the Committee on the Development and Utilization of New and Renewable Sources of Energy (26 March-4 April 1990) requested the Secretary-General to prepare a report on progress achieved in the mobilization of financial resources for the implementation of the Nairobi Programme of Action for the Development and Utilization of New and Renewable Sources of Energy, including consultative meetings, and inter-agency coordination in the field of new and renewable sources of energy. This report has been prepared in response to that request. 1/

I. MOBILIZATION OF FINANCIAL RESOURCES

2. The mobilization of financial resources is of critical importance for the implementation of the Nairobi Programme of Action, 2/ which recognized that each country would, in the process of developing its new and renewable sources of energy, require fuller mobilization of domestic financial resources. In addition, more expanded international financing would be needed, both public and private. Public financial resources would be channelled largely through bilateral and multilateral cooperation, including entities within the United Nations system.

3. Consultative meetings were identified in the Programme as a mechanism for generating additional financial resources. 3/ During the first half of the 1980s such meetings were convened at the national, regional and global levels, but with disappointing results. During its fifth session, the Committee expressed concern that no major progress had been made in mobilizing financial resources and that, in particular, no consultative meetings had been organized since 1986. Consequently the Committee requested the Secretary-General to undertake the necessary arrangements for convening consultative meetings. The Committee also recommended that adequate preparations precede the meetings, in order to ensure their successful outcome.

4. The Committee also called for the mobilization of additional resources through the existing financial mechanisms and organizations within the United Nations system and for the strengthening of the United Nations Trust Fund for New and Renewable Sources of Energy and of the UNDP Energy Account.

A. Trends in resource mobilization

5. As shown in table 1, total public budgets for research, development and demonstration in new and renewable sources of energy in International Energy Agency (IEA) countries declined sharply, from $1,665 million in 1980 to $487 million in 1990, a fall of about 70 per cent. Moreover, the share of research, development and demonstration expenditures in new and renewable sources of energy declined even further, compared to other energy sources, from 14 per cent to only 8 per cent.

Table 1. Total budgets of IEA countries in research, development and demonstration in the energy sector

(Millions of 1990 United States dollars, unless otherwise specified)

	1980	1990	1990 as percentage of 1980	Percentage of total 1980	Percentage of total 1990
Energy conservation	862.8	388.9	45.1	7.4	6.5
Coal	1 707.6	1 147.1	67.2	14.7	19.3
Oil and gas	477.8	183.3	38.4	4.1	3.1
Nuclear energy	6 981.9	3 745.3	54.3	59.4	62.9
Conventional	(3 499.6)	(2 264.1)	(64.7)	(30.2)	(38.0)
Breeder	(2 369.3)	(654.2)	(27.5)	(20.5)	(11.0)
Fusion	(1 013.0)	(827.0)	(81.6)	(8.7)	(13.9)
New and renewable sources of energy	1 665.4	486.5	29.2	14.4	8.2
Solar heating	(226.5)	(36.6)	(16.2)	(2.0)	(0.6)
Solar thermal	(348.7)	(19.1)	(5.5)	(3.0)	(0.3)
Solar photovoltaic	(330.9)	(177.3)	(53.6)	(2.9)	(3.0)
Wind energy	(264.4)	(85.5)	(52.1)	(1.4)	(1.4)
Ocean energy	(103.7)	(9.1)	(8.8)	(0.9)	(0.2)
Biomass	(136.8)	(66.3)	(48.5)	(1.2)	(1.1)
Geothermal	(354.3)	(69.8)	(19.7)	(3.1)	(1.2)
Total	11 605.5	5 951.1	51.3	100.0	100.0

Source: "Assessment and review of the implementation of the Nairobi Programme of Action for the Development and Utilization of New and Renewable Sources of Energy" (A/AC.218/SG.1/L.2), chap. IV.

6. Similar sharp declines have taken place in developing countries, partly due to the keen competition from conventional sources of energy and partly due to severe shortages of capital, from both internal and external sources. In the light of changing trends in international energy markets during the past several years, programmes and projects on new and renewable sources of energy lost their earlier priority even in areas where they were considered, at the time, economically and technically feasible. The declines differed by individual country and also by type of activity. In general, despite the considerable efforts made, the financial resources allocated to programmes in new and renewable sources of energy during the past decade have been limited. Consequently, new and renewable sources of energy could not have a significant impact on the economies of developing countries, either at the national or local level.

7. The financing of programmes and projects in new and renewable sources of energy in developing countries has been carried out through domestic and external funding. In domestic funding, the government budget allocations have played the most important role, either directly or through banking and other credit systems; the participation of the private sector appears to have been rather limited. External financing has come from both bilateral and multilateral sources, and among the latter, intergovernmental organizations (e.g., the European Community) and the United Nations system, especially the World Bank Group and regional development banks, have provided the bulk of it. In bilateral financing, the bulk has come through official development assistance (ODA) and from private sources.

8. Table 2, covering the period 1980-1992, provides a general view of funding sources and their financing of new and renewable sources of energy projects in developing countries. Of the reported $31.6 billion, about 36 per cent came from domestic resources, and the balance of 64 per cent from external sources. Of the latter, multilateral sources accounted for about 27 per cent, bilateral sources for nearly 19 per cent. Hydropower accounted for about 56 per cent of the expenditures, followed by biomass (27 per cent), energy conservation (3.7 per cent), geothermal energy, energy planning, solar and wind energies, and others.

9. While it is generally known that financial transfer through bilateral programmes, especially from developed market economies, is significant, the relevant data available to the Secretariat are unfortunately incomplete. Communications with the relevant authorities have not resulted in adequate, additional information for presentation to the Committee. It is to be hoped that comprehensive information will be provided by the countries concerned so that the Committee, during its sixth session, may consider the matter more meaningfully.

10. Financial expenditures by the United Nations system are shown in table 3, which includes projects in new and renewable sources of energy, energy conservation and energy planning. For the period 1982-1992 projects executed by the United Nations system in developing countries amounted to $13.2 billion. Of that amount, large-scale hydro accounted for $8.6 billion,

Table 2. Funding on new and renewable sources of energy in developing countries, by the type of organization, 1982-1992 a/

(Thousands of dollars)

Area of activity	Domestic	Inter-governmental	Non-governmental	Bilateral	United Nations system	Total
Hydro b/	3 716 601.6	4 095 370.0	844 943.2	4 061 958.1	5 052 917.1	17 771 790.0
Geothermal	389 975.2	154 065.2	35.0	351 754.7	179 528.3	1 075 358.4
Solar c/	185 539.8	24 354.0	282.2	254 118.7	330 554.8	794 849.5
Wind	25 781.1	7 768.9	19.5	54 385.9	21 421.8	109 377.2
Biomass d/	6 819 488.0	224 854.8	1 088.5	656 051.2	1 000 173.7	8 701 656.2
Planning	64 080.3	200 414.7	1 752.8	208 735.0	501 914.5	976 897.3
Conservation	91 722.8	12 592.0	0.0	104 307.2	962 976.9	1 171 598.9
Other	77 360.5	205 254.9	11 531.8	372 122.8	638 362.7	3 304 632.7
Total	11 370 549.3	4 924 674.5	859 653.0	6 063 433.6	8 390 349.8	31 608 660.2

Source: United Nations Secretariat, Department of International Economic and Social Affairs, New and Renewable Sources of Energy Section.

(a) Figures for 1991 and 1992 are provisional; they are incomplete and refer to commitments only.

(b) Large and small scale.

(c) Solar thermal and photovoltaic.

(d) Alcohol, biomass, biogas, fuelwood and charcoal.

Table 3. Financial expenditures for activities executed by the United Nations system, by area of activity, 1982-1991

(Thousands of dollars)

Organization	Alcohol	Biomass	Biomass	Charcoal	Conventional hydro	Conservation	Fuelwood	General	Geothermal	Mini hydro	Oil-shale	Peat	Planning	Solar	Tar sands	Voltaic	Wind	Other	Total	Percentage
CTC	--	--	--	--	--	--	--	6.0	--	--	--	--	--	--	--	--	--	--	6.0	--
DIEC	--	--	--	--	--	--	--	2 273.6	--	--	--	--	--	--	--	--	--	--	2 273.6	.02
DIESA	--	--	--	--	--	185.6	--	1 657.6	--	--	--	--	1 380.9	--	--	220.5	--	--	5 653.6	.04
DTCD	--	1 249.0	102.1	--	5 588.9	7 498.9	256.2	5 947.8	53 902 6	24 710.2	1 30.0	67.2	21 387.1	5 133.1	--	5 514.8	1 596.1	216.1	135 273.6	1.01
ECA	66.1	--	146.1	--	81.0	147.1	147.1	150.1	6.6	161.0	75.6	133.5	663.0	665.6	--	51.4	75.6	--	2 548.0	.02
ECE	--	--	--	--	--	655.0	--	--	--	--	--	--	--	475.0	--	--	--	--	990.0	.01
ECLAC	--	--	10.6	--	18.5	280.6	71.7	801.1	18.5	--	--	--	1 350.1	143.0	--	--	148.0	--	2 862.5	.02
ESCAP	166.5	602.5	1 285.5	131.2	26.7	1 146.6	976.1	14 861.0	91.2	1 767.0	--	60.0	9 449.6	940.5	--	2 961.9	857.6	--	34 215.7	.26
ESCWA	--	210.0	442.4	--	71.0	906.0	--	986.0	--	90.6	--	--	907.4	179.1	--	202.4	174.8	--	4 522.5	.03
FAO	250.0	2 187.4	2 565.9	7 169.5	155.2	3 569.6	165 182.9	6 329.6	65.0	170.0	--	--	5 075.3	1 409.6	--	--	930.7	7 109.6	196 014.5	1.49
IAEA	--	--	--	--	--	--	--	--	--	--	--	--	--	286.0	--	--	--	--	286.0	--
IBRD	--	42 796.1	3 669.8	21 131.1	7 757 665.1	881 040.4	466 651.1	874 699.1	110 671.3	22 648.8	20 000.0	--	480 000.1	2 950.4	--	--	2 701.1	--	10 606 425.0	80.40
IDA	17 650.2	--	18 126.0	50 771.4	822 070.9	111 522.5	618 596.5	191 180.2	14 792.6	--	--	--	91 697.5	--	--	--	--	1 084.0	2 031 175.8	15.40
IFAD	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
ILO	--	29.8	28.3	1 786.8	1.1	1 459.2	3 770.4	3 056.4	8.1	648.1	--	--	3 743.1	48.5	--	--	21.5	71.5	12 685.7	.10
IMETHAM	--	7.4	7.4	--	--	11.0	11.0	--	7.4	--	--	--	--	7.4	--	7.4	7.4	--	110.4	--
IMO	--	--	--	--	--	--	--	--	--	--	--	--	--	26.7	--	--	--	--	26.7	--
IMTA	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
INFRA	--	53.5	133.1	--	--	135.0	--	767.6	--	--	--	--	430.0	100.8	--	--	133.1	--	1 953.5	.01
INCSTD	--	--	--	--	--	--	--	195.1	--	--	--	--	--	--	--	1 000.0	--	--	1 195.1	.01
INSTRAD	--	--	55.0	--	55	--	--	235.0	--	55.0	--	--	121.1	--	--	--	--	--	521.1	--
UNDP	--	7 048.6	1 056.4	669.4	5 109.5	2 635.5	10 052.5	1 907.7	864.1	6 785.9	648.1	2 048.8	1 926.2	827.7	478.1	145.2	8 138.7	61.1	54 182.6	.41
UNEP	--	11.0	458.4	13.4	--	96.9	197.1	288.1	--	26.0	--	--	163.1	114.7	--	235.2	108.5	--	2 118.8	.02
UNESCO	--	540.8	2 108.4	0.0	29.8	145.7	826.7	10 656.3	571.6	21.7	--	--	150.9	1 581.4	--	--	33.3	--	19 066.5	.14
UNICEF	--	401.8	82.5	--	--	--	186.8	185.5	--	98.0	--	--	--	297.5	--	--	153.4	--	1 957.5	.01
UNIDO	3 721.8	2 194.9	11 152.6	966.8	1 161.9	9 915.9	674.6	5 726.6	--	4 292.5	--	444.6	5 878.7	5 919.8	--	3 699.3	1 321.7	21.1	57 063.7	.43
UNITAR	--	--	--	--	--	--	--	845.1	716.7	--	--	--	--	24.0	143.2	740.7	--	--	2 473.7	.02
UNU	--	151.2	110.0	--	--	--	--	449.2	1 273.2	--	--	--	1 370.6	110.0	--	110.0	110.0	--	3 684.0	.03
UNV	--	--	--	--	--	--	--	65.1	--	--	--	--	--	--	--	--	--	--	65.1	--
UPU	--	--	--	--	--	10.1	--	--	--	--	--	--	--	--	--	--	--	--	10.1	--
WHO	--	--	10.0	--	--	--	--	51.5	--	--	--	--	--	--	--	--	--	--	13.5	--
WIPO	--	--	--	--	--	--	--	58.0	48.9	--	--	--	--	48.9	--	--	48.9	--	105.1	--
WMO	--	--	--	--	803.4	--	--	858.2	--	42.9	--	--	388.9	1 168.7	--	101.8	855.8	--	3 612.7	.03
Total	34 852.6	57 646.2	62 028.9	82 865.8	9 592 808.2	1 021 643.6	1 287 635.1	1 127 565.1	232 578.0	61 472.1	20 853.4	2 743.1	547 176.9	26 655.4	625.1	14 990.6	22 024.4	8 568.8	13 184 113.8	
Percentage	0.26	0.44	0.47	0.63	65.13	7.74	9.76	8.55	1.69	0.47	0.16	0.02	4.15	0.19	--	0.11	0.17	0.06		
Percentage without large-scale hydro	0.76	1.26	1.35	1.80		22.25	28.04	24.56	5.05	1.34	0.45	0.06	11.92	0.58	0.01	0.33	0.48	0.19		

Source: United Nations Secretariat, Department of International Economic and Social Affairs, New and Renewable Sources of Energy Section.

Note: For a list of abbreviations, see the annex.

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or 65.13 per cent. Commitments for the remaining sources were thus only $4.59 billion. Figure I illustrates percentage distribution by energy sources, excluding large-scale hydro. Fuelwood received the largest commitments (28 per cent), followed, in descending order, by general energy sources (25 per cent), energy conservation (22 per cent) and energy planning (12 per cent).

11. The bulk of the funding by financial mechanisms and institutions within the United Nations system has been for capital investment for large-scale hydro power development. As shown in table 4, during the period 1982-1992, a total of about $8.3 billion was channelled through the United Nations system. The largest share went through the World Bank, which together with IDA, accounted for $7.88 billion, largely for capital investment activities - $6.02 through IBRD and $1.86 through IDA. The bulk of the World Bank funding was for conventional hydro ($4.1 billion), followed, in descending order, by conservation ($740 million), general new and renewable sources of energy ($456 million), and energy planning ($360 million). Conventional hydro also accounted for the bulk of the IDA funding ($877 million) followed by fuelwood ($471 million) and conservation ($198 million).

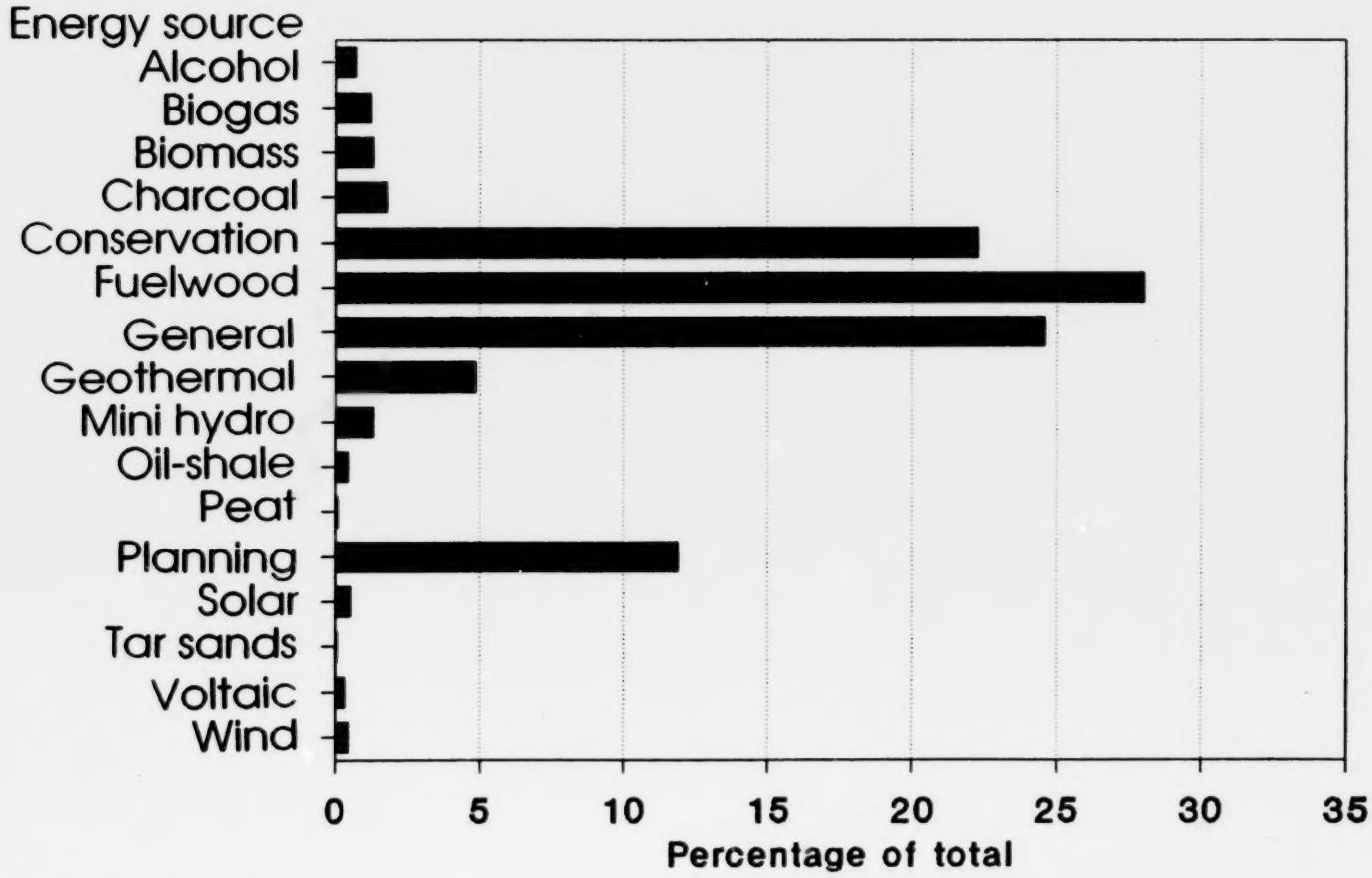
12. The funding of the United Nations Development Programme (UNDP) was significant for the same period: $188.2 million, of which the largest share was for geothermal energy development ($43 million), followed, in descending order, by energy planning ($27.7 million), fuelwood ($26.7 million), and conventional hydro ($16.5 million). A number of funds managed by UNDP also contributed to activities in the field of new and renewable sources of energy. They included United Nations Sudano-Sahelian Office (UNSO), the United Nations Capital Development Fund (UNCDF), the United Nations Special Development Industrial Services Programme, the United Nations Fund for Science and Technology for Development (UNFSTD), the United Nations Development Fund for Women (UNIFEM) and the Energy Account of UNDP.

13. The United Nations Trust Fund for the Development and Utilization of New and Renewable Sources of Energy, which was established in 1982 within the Office of the Director-General for Development and International Economic Cooperation, has received a total of approximately $2.5 million. A variety of activities related to new and renewable sources of energy were funded through the Fund during the 1980s, including global and regional consultative meetings.

14. The UNDP Energy Account was an important channel of mobilizing additional resources for new and renewable sources of energy projects in developing countries. During 1981-1990, its resources amounted to $40.4 million, from trust fund arrangements and voluntary contributions. Since 1988, voluntary contributions to the Account have ceased, and trust fund arrangements have declined substantially.

15. Another mechanism envisaged by the Committee for mobilizing additional financial resources for the implementation of new and renewable sources of energy projects was consultative meetings. They were conceived as a flexible way to bring together potential donors, recipients and interested

Figure I. Financial expenditures for activities executed by the United Nations system, 1982-1992



Source: United Nations Secretariat, Department of International Economic and Social Affairs, New and Renewable Sources of Energy Section.

Table 4. Major funding sources for projects in new and renewable sources of energy in the United Nations system, 1982-1992

(Thousands of United States dollars)

	FAO	IBRD	IDA	UNDP	UNCDF	UNDPE	SIS	SMFLDC	FSTD	UNIFEM	UNRO	FIT	UNIDO	IDF	TOTAL
Alcohol	54.0	27.0	34 200.1	1 592.4	--	--	19.5	--	--	--	--	19.1	143.3	279.4	36 334.8
Animal	1 163.3	202.0	480.0	4 057.4	--	--	--	--	--	--	50.0	146.8	--	--	6 099.5
Biogas	810.2	19 906.7	--	4 206.5	--	52.9	72.9	--	407.4	--	--	500	347.2	1 434.4	27 738.2
Biomass	1 434.9	3 163.2	23 786.7	5 645.4	--	861.0	224.4	--	5 338.8	--	434.9	640	1 437.4	767.1	43 733.8
Charcoal	3 338.2	10 994.0	33 489.8	1 509.4	--	--	169.0	--	150.0	--	33.0	1 020.6	460.4	23.5	51 187.9
Conventional hydro	118.6	4 109 419.6	877 011.8	16 532.5	3 057.8	585.0	--	--	535.4	--	929.6	15	26.0	--	5 008 231.3
Conservation	2 285.2	739 923.3	198 203.0	14 010.1	--	803.2	36.0	--	295.0	22.7	1 983.9	900.4	1 283.8	356.5	960 103.1
Fuelwood	83 660.0	205 878.6	471 118.7	26 694.9	615.1	403.0	248.1	45.5	791.0	209.7	20 365.4	22 961.3	76.8	--	833 068.1
General	3 949.2	456 212.6	93 575.3	13 358.7	57.3	394.4	23.4	--	7 358.2	--	367.6	1 413.9	1 212.7	220.8	578 144.1
Geothermal	40.0	81 440.4	47 149.8	43 223.7	--	1 063.8	--	--	2 968.6	--	--	25	--	--	175 911.3
Mini hydro	132.4	10 812.6	--	7 376.2	21 110.1	590.3	187.0	--	--	--	13.3	215.7	979.7	848.7	42 266
Oil-shale	--	20 000.0	--	372.7	--	57.4	--	--	--	--	--	0	--	--	20 430.1
Peat	--	72.2	--	1 016.0	--	--	--	--	--	--	1 248.2	67.2	--	444.6	2 848.2
Planning	2 406.4	359 715.4	77 807.5	27 684.5	615.1	13 756.6	75.8	--	3 696.5	--	--	2 408.7	2 257.1	162.4	490 546
Solar	728.0	2 169.0	35.0	7 443.4	--	247.5	312.7	--	1 345.0	48.0	14.0	650	2 315.7	1 355.7	16 664
Voltaic	--	--	--	8 736.1	58.2	103.5	38.0	--	1 334.6	--	--	0	28.0	--	10 290.4
Wind	708.2	2 949.0	35.0	4 700.0	--	472.3	97.2	--	764.6	--	7 652.0	138.7	1 400.1	180.3	19 097.4
Others a/	--	--	--	216.3	--	183.5	21.4	--	--	--	37.2	--	--	--	458.4
Total	100 828.6	6 022 885.6	1 856 892.7	188 159.9	25 513.6	19 390.9	1 456.0	45.5	24 985.1	280.4	33 091.9	31 122.4	11 968.2	6 073.4	8 322 694.2

Source: United Nations Secretariat, Department of International Economic and Social Affairs, New and Renewable Sources of Energy Section.

Note: For a list of abbreviations, see the annex.

a/ Tar sands, tidal, vegetable oils, wave.

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organizations within and outside the United Nations system. In the past, a number of meetings were held at national, subregional, regional and global levels. But in recent years, in view of declining interest, no such meetings have been organized. However, their effectiveness has not been conclusively ascertained. Since the conclusion of the fourth session of the Committee, no consultative meeting has been convened.

B. Conclusions

16. Despite successes in the early 1980s, the financing of new and renewable sources of energy programmes and projects has declined considerably in recent years. In the developed market economies, public expenditures for research, development and demonstration activities have been scaled down, and private involvement and investments have been greatly curtailed. In the developing world, with few exceptions, similar trends have been aggravated by the deterioration of economic conditions, especially in Africa and Latin America and the reduced availability of funding from bilateral and multilateral sources.

17. Changes in perception with regard to the global energy situation and its prospects, including the environmental effects of expected development and use of conventional sources of energy, have most recently led to a revival of interest in an energy transition, as recommended in the Nairobi Programme of Action. Undertaking remedial action to allay these concerns will require massive efforts for the mobilization of additional and adequate financial resources for programmes and projects in new and renewable sources of energy, particularly in developing countries.

18. Such a mobilization will require a fundamental reordering of priorities by Governments in both developed and developing countries with regard to their national policies, the augmentation of financial flows through bilateral and multilateral channels, and a much greater involvement through new incentives of the private sector, including direct foreign investment in the developing world.

II. INTER-AGENCY COORDINATION

19. The importance of coordinating activities in new and renewable sources of energy within the United Nations system has been underscored by the Committee at its past five sessions. To help the Committee in this task, an Inter-Agency Group on New and Renewable Sources of Energy was established in February 1983, under the auspices of the Advisory Committee on Coordination (ACC), following a decision by the General Assembly (resolution 37/250). Following the recommendations of the Nairobi Programme of Action, the Director-General for Development and International Cooperation was entrusted with the task of coordinating the contributions of the organs and organizations of the United Nations system in the implementation of the Nairobi Programme of Action.

20. At its first session the Committee decided that the Unit on New and Renewable Sources of Energy in the Department of International Economic and Social Affairs would be entrusted, inter alia, with the task of serving as a focal point for information on multilateral, bilateral and other activities in the area of new and renewable sources of energy. At subsequent sessions, the Committee reiterated the importance of coordination and cooperation. At its second session in 1984, the Committee urged that, further efforts should be made with a view to ensuring rational, effective and efficient coordination among entities with the United Nations system involved in the development and utilization of new and renewable sources of energy. 4/ At its third session, the Committee endorsed the importance of increasing inter-agency coordination within the United Nations system in order to enhance its effectiveness and increase the responsiveness in the implementation of the Nairobi Programme of Action. 5/ At its fourth session, the Committee re-emphasized the importance of effective coordination within the United Nations system and called upon the Inter-Agency Group to intensify its efforts for enhanced coordination. 6/

Activities of the Inter-Agency Group on New and Renewable Sources of Energy

21. Since its establishment, the Inter-Agency Group on New and Renewable Sources of Energy has met once a year. It has held 10 sessions so far, with the participation of interested organizations of the United Nations system. During the fifth session of the Committee, the Group held its ninth meeting, during which it was decided, inter alia, that in order to further enhance coordination and cooperation within the United Nations system, a few areas should be selected and joint reports presented at subsequent sessions of the Group. The following areas were identified and respective entities selected to play leading roles:

(a) Energy policies for rural development (FAO);

(b) Strategies for commercialization of new and renewable sources of energy (UNDP);

(c) Energy and the environment (UNEP);

(d) Role of women in new and renewable sources of energy (INSTRAW).

The selected entities would collaborate and cooperate with other members of the Inter-Agency Group.

22. During its tenth session, in March 1991, the Group was briefed on the deliberations of the Committee at its fifth session and considered actions to be taken in preparation of the sixth session of the Committee. Individual members of the Group made presentations on current and planned activities by their respective entities at the national, regional and/or global levels, covering a wide range of activities as part of coordination and cooperation efforts. The presentation was followed by a discussion; some of the conclusions were as follows:

(a) There was an apparent reduction in the number of requests by Governments for small solar drying projects; large-scale solar drying projects were, however, still popular. Experience with large-scale solar thermal systems for electricity generation, while apparently successful in specific areas in the developed countries (notably California, USA) might not be easily replicable in the developing countries or, for that matter, in other developed countries. Novel approaches such as energy cooling in developing countries, which had received a great deal of interest, deserved encouragement;

(b) There was an increase in the number of requests for biomass projects, including biogas. However, the experience with biogas projects was varied: some were successful, while others had run into some problems;

(c) Strong interest had been expressed by many countries in programmes associated with the promotion, development and distribution of efficient wood stoves;

(d) Photovoltaic projects were promising, and the potential for their application had increased, especially in remote areas. Cooperation between entities at the regional level in photovoltaic systems was a welcome development; further cooperation was called for. Increasing experience had been gained in projects on small-scale hydro systems;

(e) Large-scale wind energy systems had proved competitive for electricity generation. Experiences with these systems were available in both developing and developed countries.

23. Another important focus of the Group was the emerging consensus on the role of new and renewable sources of energy in achieving sustainable development with reduced adverse environmental impacts. The Group agreed that the focus should receive increasing attention by the United Nations system, as should the promotion of rapid transfer of the relevant technologies to developing countries.

24. The spirit of cooperation and collaboration was, during the tenth session of the Group, exemplified by consideration of a draft report by FAO entitled "Energy policy for rural development: a review of inter-agency cooperation", focusing on the activities of five entities - the Department of Technical Cooperation for Development of the United Nations Secretariat, FAO, UNEP, UNESCO and the World Bank. The Group commended the report as the important beginning of a series of similar exercises highlighting areas of concrete cooperation and coordination, and concluded that there was need for a common approach and methodology, for evaluating such projects.

25. At a later date UNDP circulated a report entitled "Strategy for disseminating/commercializing proven renewable energy technologies" to the members of the Group. The report underlines the lack of follow-up to the numerous projects financed by multilateral/bilateral organizations for demonstrating the technical and financial viability technologies in new and renewable sources of energy over the years. The document, which focuses on

photovoltaic technologies, examines financial and institutional barriers to commercialization, concentrating on policy and markets.

26. The Group concluded that there was need for a United Nations system-wide mechanism that could articulate policies on important energy matters, in which the Group could play an important role in evaluating, discussing, analysing and articulating related topics - for example, energy planning, energy conservation and efficiency - including environment and economic development.

Notes

1/ See Official Records of the General Assembly, Forty-fifth Session, Supplement No. 36 (A/45/36), annex, resolution 2.

2/ Report of the United Nations Conference on New and Renewable Sources of Energy (United Nations publication, Sales No. E.81.I.24), chap. I, para. 72.

3/ Ibid., para. 91.

4/ Official Records of the General Assembly, Thirty-ninth Session, Supplement No. 44 (A/39/44).

5 Ibid., Supplement No. 44 (A/41/44), resolution 2 (III).

6/ Ibid., Supplement No. 36 (A/43/36), para. 72.

Annex

LIST OF ABBREVIATIONS

FAO	Food and Agriculture Organization of the United Nations
IBRD	International Bank of Reconstruction and Development (World Bank)
IDA	International Development Assistance
UNDP	United Nations Development Programme
UNCDF	United Nations Capital Development Fund
UNDPE	Energy Account of UNDP
SIS	Special Industrial Services Programme (UNDP)
SMFLDC	Special Measures Fund for the Least Developed Countries (UNDP)
FSTD	United Nations Fund for Science and Technology for Development
UNIFEM	United Nations Development Fund for Women
UNSO	United Nations Sudano-Sahelian Office
FIT	Funds in trust for use by the United Nations
UNIDO	United Nations Industrial Development Organization
IDF	International Development Fund (UNDP)
UNCTC	United Nations Centre on Transnational Corporations
DIEC	Office of the Director-General for Development and International Economic Cooperation
DIESA	Department of International Economic and Social Affairs, United Nations Secretariat
DTCD	Department of Technical Cooperation for Develcpment, United Nations Secretariat
ECA	Economic Commission for Africa
ECE	Economic Commission for Europe
ECLAC	Economic Commission for Latin America and the Caribbean

ESCAP	Economic and Social Commission for Asia and the Pacific
ESCWA	Economic and Social Commission for Western Asia
IAEA	International Atomic Energy Agency
IFAD	International Fund for Agricultural Development
ILO	International Labour Organisation
INSTRAW	International Research and Training Institute for the Advancement of Women
ITU	International Telecommunication Union
PSCA	Department of Political and Security Council Affairs, United Nations Secretariat
UNHCS	United Nations Centre for Human Settlements (Habitat)
UNCSTD	Centre for Science and Technology for Development, United Nations Secretariat
UNCTAD	United Nations Conference on Trade and Development
UNEP	United Nations Environment Programme
UNESCO	United Nations Educational, Scientific and Cultural Organization

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